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Paper # 4

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\* W E L C O M E T O T H E \*  
\* U . S . P A T E N T T E X T F I L E \*  
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=> s retrovir? and adeno-associated

4135 RETROVIR?  
674 ADENO  
786807 ASSOCIATED  
205 ADENO-ASSOCIATED  
(ADENO(W) ASSOCIATED)

COMMAND INTERRUPTED

=> s retrovir? and adeno-associated and vector?

4135 RETROVIR?  
674 ADENO  
786807 ASSOCIATED  
205 ADENO-ASSOCIATED  
(ADENO(W) ASSOCIATED)

66390 VECTOR?  
L1 177 RETROVIR? AND ADENO-ASSOCIATED AND VECTOR?

=> s l1 and packaging

74662 PACKAGING  
L2 84 L1 AND PACKAGING

=> d 12,1-84,cit

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=> d 5,fro,clms

US PAT NO:	5,750,396 [IMAGE AVAILABLE]	L2: 5 of 84
DATE ISSUED:	May 12, 1998	
TITLE:	Stable virus <b>packaging</b> cell lines	
INVENTOR:	Yanping Yang, Memphis, TN Elio F. Vanin, Memphis, TN Gerard C. Grosveld, Memphis, TN Arthur W. Nienhuis, Memphis, TN	
ASSIGNEE:	St. Jude's Children's Research Hospital, Memphis, TN (U.S. corp.) Genetic Therapy, Inc., Gaithersburg, MD (U.S. corp.)	

APPL-NO: 08/437,188  
DATE FILED: May 8, 1995  
INT-CL: [6] C12N 5/10; C12N 5/08  
US-CL-ISSUED: 435/357, 366, 320.1; 536/23.72, 24.1  
US-CL-CURRENT: 435/357, 320.1, 366; 536/23.72, 24.1  
SEARCH-FLD: 435/69.1, 172.1, 172.3, 240.2, 320.1, 325, 371, 353, 354,  
357, 363, 366; 536/23.1, 23.72, 24.1  
REF-CITED:

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ART-UNIT: 185  
PRIM-EXMR: David Guzo  
LEGAL-REP: Sterne, Kessler, Goldstein & Fox P.L.L.C.

ABSTRACT:

The field of the invention is recombinant **packaging** and producer cell lines for producing infectious **retroviral vectors**. The invention more specifically relates to the generation of pseudotyped **retroviral vectors** with a broad host range which can be produced at high titers in specially constructed **packaging** cell lines. Most specifically, the invention relates to the generation of pseudotyped **retroviral vectors** having vesicular stomatitis virus-G protein (VSV-G) as the membrane-associated viral envelope protein.

27 Claims, 12 Drawing Figures

US PAT NO: 5,750,396 [IMAGE AVAILABLE] L2: 5 of 84

CLAIMS:

CLMS(1)

What is claimed is:

1. A **retrovirus packaging** cell containing:

- (a) a first nucleic acid sequence, said sequence comprising a toxic viral envelope protein coding sequence operably linked to a minimal promoter, said minimal promoter being operably linked to at least one copy of the tetracycline operator, said sequence also comprising a sequence that stops transcriptional readthrough of the gene encoding said toxic viral envelope protein;
- (b) a second nucleic acid sequence, said sequence comprising a sequence encoding a chimeric protein, said chimeric protein comprising a tetracycline-modulated repressor and a transactivator protein, said chimeric protein coding sequence being operably linked to a promoter; and
- (c) a third nucleic acid sequence, said sequence comprising a sequence encoding **retrovirus** nucleocapsid protein.

CLMS(2)

2. The cell of claim 1, wherein said minimal promoter is the cytomegalovirus 1A minimal promoter.

CLMS(3)

3. The cell of claim 1, wherein said toxic viral envelope protein is the VSV-G protein.

CLMS(4)

4. The cell of claim 1, wherein said transactivator protein is the C-terminal activating region of the VP16 protein of HSV.

CLMS(5)

5. The cell of claim 1, wherein said minimal promoter is the cytomegalovirus 1A minimal promoter, said toxic viral envelope protein is the VSV-G protein, and said transactivator is the C-terminal activating region of the VP16 protein of HSV.

CLMS(6)

6. The cell of claim 5, designated GP-7C-tetVP16-G, deposited as ATCC CRL-11874.

CLMS(7)

7. A **retrovirus** producer cell containing:

- (a) a first nucleic acid sequence, said sequence comprising a toxic viral envelope protein coding sequence operably linked to a minimal promoter, said minimal promoter being operably linked to at least one copy of the tetracycline operator, said sequence also comprising a sequence that stops transcriptional readthrough of the gene encoding said toxic viral envelope protein;
- (b) a second nucleic acid sequence, said sequence comprising a sequence encoding a chimeric protein, said chimeric protein comprising a tetracycline-modulated repressor and a transactivator protein, said chimeric protein coding sequence being operably linked to a promoter;
- (c) a third nucleic acid sequence, said sequence comprising a sequence encoding **retrovirus** nucleocapsid protein; and
- (d) a fourth nucleic acid sequence, said sequence comprising a **retroviral** sequence capable of being encapsidated in said nucleocapsid protein.

CLMS(8)

8. The cell of claim 7, wherein said minimal promoter is the cytomegalovirus 1A minimal promoter.

CLMS(9)

9. The cell of claim 7, wherein said toxic viral envelope protein is the VSV-G protein.

CLMS(10)

10. The cell of claim 7, wherein said transactivator is the C-terminal activating region of the VP16 protein of HSV.

CLMS(11)

11. The cell of claim 7, wherein said minimal promoter is the



cytomegalovirus 1A minimal promoter, said toxic envelope protein is the VSV-G protein, and said transactivator is the C-terminal activating region of the VP16 protein of HSV.

CLMS (12)

12. The cell of claim 7, wherein said **retroviral** sequence contains at least one heterologous gene that is capable of being expressed in a target cell.

CLMS (13)

13. The cell of claim 7, wherein said **retrovirus** is selected from the group consisting of Moloney murine leukemia virus and Harvey murine sarcoma virus.

CLMS (14)

14. A method for producing infectious **retrovirus** comprising incubating the cell of claim 7 in culture medium lacking tetracycline so that infectious **retrovirus** is produced from said cell.

CLMS (15)

15. A method for producing a **retrovirus** gene delivery vehicle comprising incubating the cell of claim 12 in cell culture medium lacking tetracycline so that **retrovirus** gene delivery vehicles are produced in said cell.

CLMS (16)

16. A **retrovirus** producer cell containing:

- (a) a first nucleic acid sequence, said sequence comprising a toxic viral protein coding sequence operably linked to a minimal promoter, said minimal promoter being operably linked to at least one copy of the tetracycline operator, said sequence also comprising a sequence that stops transcriptional readthrough of the gene encoding said toxic viral envelope protein;
- (b) a second nucleic acid sequence, said sequence comprising a sequence encoding a chimeric protein, said chimeric protein comprising a tetracycline-modulated repressor and a transactivator protein, said chimeric protein coding sequence being operably linked to a promoter; and
- (c) a third nucleic acid sequence, said sequence comprising a viral sequence sufficient to produce infectious virus in said cell, wherein production of said virus depends upon the expression of said toxic viral protein.

CLMS (17)

17. A nucleic acid sequence comprising the VSV-G coding sequence operably linked to a minimal promoter, said minimal promoter being operably linked to at least one copy of the tetracycline operator, said sequence also comprising a sequence that stops transcriptional readthrough of the gene encoding said toxic viral envelope protein.

CLMS (18)

18. The nucleic acid of claim 17, wherein said minimal promoter is the cytomegalovirus-1A minimal promoter.

CLMS (19)

19. A combination of nucleic acids comprising:

- (a) a sequence encoding a toxic viral envelope protein, said sequence

being operably linked to a minimal promoter, said minimal promoter being operably linked to at least one copy of the tetracycline operator, said sequence also comprising a sequence that stops transcriptional readthrough of the gene encoding said toxic viral envelope protein;

(b) a sequence encoding a chimeric protein, said chimeric protein comprising a tetracycline-modulated repressor and a transactivator protein, said chimeric protein coding sequence being operably linked to a promoter; and

(c) a nucleic acid sequence encoding **retrovirus** nucleocapsid proteins.

CLMS (20)

20. The combination of claim 19, wherein said minimal promoter is a cytomegalovirus 1A minimal promoter.

CLMS (21)

21. The combination of claim 19, wherein said toxic viral envelope protein is the VSV-G protein.

CLMS (22)

22. The combination of claim 19, wherein said transactivator protein is the C-terminal activating region of the VP16 protein of HSV.

CLMS (23)

23. The combination of claim 19, wherein said minimal promoter is the cytomegalovirus 1A minimal promoter, said toxic envelope protein is the VSV-G protein, and said transactivator protein is the C-terminal activating region of the VP16 protein of HSV.

CLMS (24)

24. A combination of nucleic acids comprising:

(a) A sequence encoding VSV-G, said sequence being operably linked to a minimal promoter, said minimal promoter being operably linked to at least one copy of the tetracycline operator, said sequence also comprising a sequence that stops transcriptional readthrough of the gene encoding said toxic viral envelope protein; and

(b) a sequence encoding a chimeric protein, said protein comprising the tetracycline-modulated repressor and a transactivator protein, wherein said chimeric protein coding sequence is operably linked to a promoter.

CLMS (25)

25. The combination of claim 24, wherein said minimal promoter is the cytomegalovirus 1A minimal promoter.

CLMS (26)

26. The combination of claim 24, wherein said transactivator protein is the C-terminal activating region of the VP16 protein of HSV.

CLMS (27)

27. The combination of claim 24, wherein said minimal promoter is the cytomegalovirus 1A minimal promoter and said transactivator protein is the C-terminal activating region of the VP16 protein of HSV.

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850 ITR?

1759 LTR?  
L3 14 L1 AND ? AND LTR?

=> s 13 and integra?

667628 INTEGRA?  
L4 13 L3 AND INTEGRA?

=> d 14,1-13,cit,ab

1. 5,756,684, May 26, 1998, Cloning and expression of PUR protein;  
Edward M. Johnson, et al., 530/388.21; 435/69.1, 69.7, 172.1 [IMAGE  
AVAILABLE]

US PAT NO: 5,756,684 [IMAGE AVAILABLE] L4: 1 of 13

ABSTRACT:

The present invention relates to the PUR protein, nucleotide sequences and expression **vectors** encoding PUR, and to methods for inhibiting PUR activity. Inhibitors of PUR activity may be used to treat hyperproliferative diseases such as cancer.

2. 5,741,706, Apr. 21, 1998, Anti-HIV ribozymes; Markley C. Leavitt, et al., 435/372, 6, 91.31, 172.3, 320.1, 325, 366; 536/23.1, 23.2, 24.5 [IMAGE AVAILABLE]

US PAT NO: 5,741,706 [IMAGE AVAILABLE] L4: 2 of 13

ABSTRACT:

GUC and GUA ribozymes which cleave HIV RNA are provided. The ribozymes cleave HIV RNA in vitro and in vivo. When the ribozymes are expressed in cells, they inhibit HIV replication in the cells.

3. 5,731,182, Mar. 24, 1998, Non-mammalian DNA virus to express an exogenous gene in a mammalian cell; Frederick M. Boyce, 435/183, 69.1, 70.1, 320.1 [IMAGE AVAILABLE]

US PAT NO: 5,731,182 [IMAGE AVAILABLE] L4: 3 of 13

ABSTRACT:

Disclosed is a method of expressing an exogenous gene in a mammalian cell, involving infecting the cell with a non-mammalian virus (e.g., a baculovirus) whose genome carries an exogenous gene, and growing the cell under conditions such that the gene is expressed. Also disclosed is a method of treating a gene deficiency disorder in a mammal by providing to a cell a therapeutically effective amount of a virus whose genome carries an exogenous gene and growing the cell under conditions such that the exogenous gene is expressed in the mammal.

4. 5,681,706, Oct. 28, 1997, Mammalian anoxia-responsive regulatory element; Garth R. Anderson, et al., 435/6, 69.1, 91.1, 172.3, 320.1, 353, 375; 536/24.1 [IMAGE AVAILABLE]

US PAT NO: 5,681,706 [IMAGE AVAILABLE] L4: 4 of 13

ABSTRACT:

Genetic regulatory elements which effect anoxic induction of a DNA molecule in mammalian cells exposed to anoxia are identified. The genetic regulatory elements, designated mammalian anoxia-responsive elements, when operably linked to a DNA molecule and basal promoter regulate the transcription of the DNA molecule in response to anoxia. The invention relates to recombinant **vectors** useful for introduction into mammalian cells, and the selective expression in mammalian cells exposed to anoxic conditions. Also provided are methods of using such **vectors**.

5. 5,672,479, Sep. 30, 1997, Methods for identifying compounds that bind to PUR protein; Edward M. Johnson, et al., 435/7.1, 7.25, 7.71, 7.93; 530/300, 358; 935/39, 41 [IMAGE AVAILABLE]

US PAT NO: 5,672,479 [IMAGE AVAILABLE]

L4: 5 of 13

ABSTRACT:

The present invention relates to the PUR protein, nucleotide sequences and expression **vectors** encoding PUR, and to methods for inhibiting PUR activity. Inhibitors of PUR activity may be used to treat hyperproliferative diseases such as cancer.

6. 5,658,776, Aug. 19, 1997, Generation of high titers of recombinant AAV **vectors**; Terence R. Flotte, et al., 435/172.3, 91.4, 320.1, 352, 363, 366, 367, 369, 371 [IMAGE AVAILABLE]

US PAT NO: 5,658,776 [IMAGE AVAILABLE]

L4: 6 of 13

ABSTRACT:

**Adeno-associated virus (AAV) vectors** may have utility for gene therapy but heretofore a significant obstacle has been the inability to generate sufficient quantities of such recombinant **vectors** in amounts that would be clinically useful for human gene therapy application. Stable, helper-free AAV packaging cell lines have been elusive, mainly due to the activities of Rep protein, which down-regulates its own expression and reverses cellular immortalization. This invention provides packaging systems and processes for packaging AAV **vectors** that efficiently circumvent these problems by replacing the AAV p5 promoter with a heterologous promoter and that allow for substantially increased packaging efficiency.

7. 5,652,224, Jul. 29, 1997, Methods and compositions for gene therapy for the treatment of defects in lipoprotein metabolism; James M. Wilson, et al., 514/44; 424/93.21; 435/172.3, 320.1, 325, 354, 366, 369, 370 [IMAGE AVAILABLE]

US PAT NO: 5,652,224 [IMAGE AVAILABLE]

L4: 7 of 13

ABSTRACT:

The invention provides a recombinant viral **vector** comprising the DNA of, or corresponding to, at least a portion of the genome of an adenovirus, which portion is capable of infecting a hepatic cell; and a human VLDL receptor gene operatively linked to regulatory sequences directing its expression. The **vector** is capable of expressing the normal VLDL receptor gene product in hepatic cells in vivo or in vitro. This viral **vector** is useful in the treatment of metabolic disorders caused by the accumulation of LDL in plasma, such as familial hypercholesterolemia or familial combined hyperlipidemia.

8. 5,650,309, Jul. 22, 1997, Viral **vectors**; Flossie Wong-Staal, et al., 435/172.3, 320.1, 325, 366, 372, 372.3; 536/23.1, 24.1, 24.5 [IMAGE AVAILABLE]

US PAT NO: 5,650,309 [IMAGE AVAILABLE]

L4: 8 of 13

ABSTRACT:

**Vectors** are provided which stably transduce cells, rendering the cells resistant to a target virus. The **vectors** are amplified upon infection of the cell by a target virus, and spread throughout an infected host in response to infection by the target virus.

9. 5,646,034, Jul. 8, 1997, Increasing rAAV titer; Michael Mamounas, et al., 435/325, 91.4, 172.3, 320.1 [IMAGE AVAILABLE]

## ABSTRACT:

Methods, kits and compositions for increasing the titer of rAAV **vectors** are provided.

10. 5,604,090, Feb. 18, 1997, Method for increasing transduction of cells by **adeno-associated virus vectors**; Ian E. Alexander, et al., 435/5; 424/93.2; 435/172.3 [IMAGE AVAILABLE]

US PAT NO: 5,604,090 [IMAGE AVAILABLE]

L4: 10 of 13

## ABSTRACT:

The invention includes methods for increasing the efficiency of transduction of cells, including non-dividing cells, by recombinant AAV **vectors**. The methods utilize agents that alter certain aspects of DNA metabolism, more specifically, that affect DNA synthesis and/or affect repair, that impact on maintenance of chromosomal integrity, and/or that cause damage to the cellular DNA. Agents and **vectors** can now also be preselected and screened for transducing ability and/or transducing agents for their effect on DNA metabolism. These agents include tritiated nucleotides such as thymidine, gamma irradiation, UV irradiation, cis-platinum, etoposide, hydroxyurea and aphidicolin.

11. 5,580,761, Dec. 3, 1996, Method of conferring resistance to immunodeficiency viral infection; Wilson Greatbatch, et al., 435/91.32, 91.1, 91.3, 172.3, 320.1, 351, 372, 372.3; 536/23.1 [IMAGE AVAILABLE]

US PAT NO: 5,580,761 [IMAGE AVAILABLE]

L4: 11 of 13

## ABSTRACT:

In accordance with the present invention, disclosed is a method of conferring, upon a host cell, resistance to **retroviral** infection by interfering with one or more of the infection processes including **retroviral** replication and assembly into infective viral particles. The method involves introducing a **vector** into a host cell, wherein the **vector** comprises a polynucleotide which directs transcription, within the host cell, of RNA which is a) complementary or corresponding, depending on the target region, to a nucleic acid sequence within one or more regions of the genome of the **retrovirus**; and b) is effective in inhibiting one or more steps in the **retroviral** infection process by interfering with **retroviral** replication, reverse transcription, translation, or assembly into viral particles when the host cell is infected. Also disclosed is a method of treatment using the nucleic acid constructs, or cells upon which resistance to infection has been conferred.

12. 5,478,745, Dec. 26, 1995, Recombinant viral **vector** system; Richard J. Samulski, et al., 435/320.1, 69.1, 172.3; 536/23.1, 24.1 [IMAGE AVAILABLE]

US PAT NO: 5,478,745 [IMAGE AVAILABLE]

L4: 12 of 13

## ABSTRACT:

The present invention relates to a system for replication and encapsidation of recombinant DNA fragments into virus particles comprised of adenovirus associated viral (AAV) capsid proteins. The invention provides a means of obtaining recombinant viral stocks that may be used to treat patients suffering from genetic diseases.

13. 5,474,935, Dec. 12, 1995, **Adeno-associated virus (AAV)-based eucaryotic vectors**; Saswati Chatterjee, et al., 435/320.1; 424/93.1, 93.2; 435/172.3; 935/22, 32, 57 [IMAGE AVAILABLE]

US PAT NO: 5,474,935 [IMAGE AVAILABLE]

L4: 13 of 13

ABSTRACT:

The present invention relates to **adeno-associated virus (AAV)-based eucaryotic vectors** and uses thereof. Such **vectors** may, for example, be used to down regulate any targeted viral or cellular gene whose sequence is known. Furthermore, the **vectors** may also be used to cause the expression of proteins.

=> d 14,8,9,clms

US PAT NO: 5,650,309 [IMAGE AVAILABLE]

L4: 8 of 13

CLAIMS:

CLMS(1)

What is claimed is:

1. A **vector** comprising biologically active nucleic acid sequences from a first and second virus, wherein said nucleic acid sequences of said first virus comprise cis-active AAV nucleic acids for host cell chromosomal **integration**, said nucleic acid sequences of said second virus comprise a replication defective, rescuable **retroviral** genome, and wherein said nucleic acid sequences of said second virus also encodes an anti-viral agent operably linked to an expression control sequence.

CLMS(2)

2. The **vector** of claim 1, wherein said nucleic acid sequences from said first virus further comprise nucleic acid sequences for nucleic acid replication and encapsidation of the **vector**.

CLMS(3)

3. The **vector** of claim 1, wherein the second virus is an HIV virus.

CLMS(4)

4. The **vector** of claim 1, wherein said cis-active nucleic acid sequences are AAV 5' and 3' **ITR** regions.

CLMS(5)

5. The **vector** of claim 1, wherein the second virus is HIV, and wherein the replication defective, rescuable HIV genome encodes a non-functional gene selected from the tat, rev, gag, pol, env, vif, vpr, nef, and vpu/vpx genes.

CLMS(6)

6. The **vector** of claim 1, wherein the second virus is HIV, and wherein the replication defective, rescuable HIV genome does not encode a gene selected from the tat, rev, gag, pol, env, vif, vpr, nef, and vpu/vpx genes.

CLMS(7)

7. The **vector** of claim 1, wherein said expression control sequence comprises a constitutive promoter.

CLMS(8)

8. The **vector** of claim 1, wherein said expression control sequence comprises an inducible promoter.

CLMS (9)

9. The **vector** of claim 1, wherein said expression control sequence comprises an inducible promoter activated in response to viral replication of a replication competent virus corresponding to the replication defective portion of the **vector**.

CLMS (10)

10. The **vector** of claim 1, wherein the anti-viral agent is selected to specifically inhibit the replication of the second virus.

CLMS (11)

11. The **vector** of claim 1, wherein said second virus encodes an anti-viral agent selected from the group consisting of an antisense nucleic acid, a ribozyme, a decoy nucleic acid, a transdominant gene and a suicide gene.

CLMS (12)

12. The **vector** of claim 1, wherein said second virus encodes an anti viral agent selected from the group consisting of an antisense nucleic acid comprising the HIV TAR or RRE sequence, a decoy nucleic acid molecule comprising the TAR sequence or the RRE sequence, a hammerhead ribozyme, and a hairpin ribozyme.

CLMS (13)

13. The **vector** of claim 1, further comprising a nucleic acid encoding a selectable marker operatively linked to an expression control sequence.

CLMS (14)

14. The **vector** of claim 1, further comprising a second anti-viral agent operatively linked to an expression control sequence.

CLMS (15)

15. A mammalian cell transduced with a **vector** comprising biologically active nucleic acid sequences from a first and second virus, wherein said nucleic acid sequences of said first virus comprise cis-active AAV nucleic acids for host cell chromosomal **integration**, said nucleic acid sequences of said second virus comprise a replication defective, rescuable **retroviral** genome, and wherein said nucleic acid sequences of said second virus also encodes an anti-viral agent operably linked to an expression control sequence.

CLMS (16)

16. The mammalian cell of claim 15 wherein the mammalian cell is a hematopoietic stem cell, fetal cord blood cell, T-lymphocyte or monocyte.

CLMS (17)

17. A method for inhibiting viral replication in a cell in vitro, comprising transducing the cell with a **vector** comprising biologically active nucleic acid sequences from a first and second virus, wherein said nucleic acid sequences of said first virus comprise cis-active AAV nucleic acids for host cell chromosomal **integration**, said nucleic acid sequences of said second virus comprise a replication defective, rescuable **retroviral** genome, and wherein said nucleic acid sequences of said second virus also encodes an anti-viral agent operably linked to

an expression control sequence.

CLMS(18)

18. The method of claim 17, wherein said transduced cell inhibits viral replication by an HIV virus.

CLMS(19)

19. The method of claim 17, wherein the cell includes genes necessary for activating an expression control sequence contained within said **vector**.

CLMS(20)

20. The method of claim 17, wherein the cell is a hematopoietic stem cell, fetal cord blood cell, T-lymphocyte or monocyte.

CLMS(21)

21. A method for making anti-viral agents in a cell in vitro, comprising transducing the cell with a **vector** comprising biologically active nucleic acid sequences from a first and second virus, wherein said nucleic acid sequences of said first virus comprise cis-active nucleic acids encoding viral sequences for host cell chromosomal **integration**, said nucleic acid sequences of said second virus comprise a replication defective, rescuable viral genome, and wherein said nucleic acid sequences of said second virus encode an anti-viral agent operably linked to an expression control sequence, wherein the cell includes genes necessary for activating said expression control sequence, and culturing the cell under conditions for expression of the anti-viral agent.

US PAT NO: 5,646,034 [IMAGE AVAILABLE]

L4: 9 of 13

CLAIMS:

CLMS(1)

What is claimed is:

1. A method for producing high titers of recombinant **adeno-associated virus (AAV) vector** comprising the steps of:  
(i) binding a recombinant encapsidatable rAAV nucleic acid and a recombinant AAV helper nucleic acid, wherein the AAV helper nucleic acid comprises sequences necessary for rAAV replication and encapsidation, to an AAV helper virus, thereby producing a bound AAV helper virus;  
(ii) contacting a cell with the bound AAV helper virus; and  
(iii) culturing the cell under conditions which permit replication and encapsidation of the rAAV nucleic acid, thereby producing an rAAV **vector**.

CLMS(2)

2. The method of claim 1, wherein the AAV helper virus is an adenovirus.

CLMS(3)

3. The method of claim 1, wherein the AAV helper nucleic acid is replication defective.

CLMS(4)

4. The method of claim 1, wherein the AAV helper nucleic acid comprises adenovirus **ITR** sequences and AAV sequences.



CLMS(5)

5. The method of claim 1, wherein the AAV helper nucleic acid is Ad8.

CLMS(6)

6. The method of claim 1, wherein the AAV helper virus is replication defective.

CLMS(7)

7. The method of claim 1, wherein the cell is a human cell.

CLMS(8)

8. The method of claim 1, wherein step (ii) further comprises simultaneously infecting the cell with an adenovirus.

CLMS(9)

9. The method of claim 1, wherein the rAAV nucleic acid comprises AAV **ITR** sequences and heterologous nucleic acid sequences.

CLMS(10)

10. The method of claim 1, wherein the rAAV nucleic acid comprises AAV **ITR** sequences and heterologous anti-HIV nucleic acid sequences.

CLMS(11)

11. The method of claim 1, wherein the rAAV nucleic acid comprises AAV **ITR** sequences and heterologous anti-HIV ribozyme nucleic acid sequences.

CLMS(12)

12. The method of claim 1, wherein the method further includes the step of isolating the recombinant rAAV **vector**.

CLMS(13)

13. The method of claim 1, wherein the bound AAV helper virus of step (i) further comprises a nucleic acid binding molecule.

CLMS(14)

14. The method of claim 1, wherein the bound AAV helper virus of step (i) further comprises poly-1-lysine and transferrin-poly-1-lysine.

CLMS(15)

15. The method of claim 1, wherein the rAAV nucleic acid and the AAV helper nucleic acid are not homologous.

CLMS(16)

16. The method of claim 13, wherein the nucleic acid binding molecule is a polycation.

CLMS(17)

17. The method of claim 13, wherein the nucleic acid binding molecule is poly-1-lysine.

CLMS (18)

18. A method of replicating an rAAV **vector** through receptor mediated endocytosis, comprising:

- (i) binding an rAAV nucleic acid and an AAV helper nucleic acid to a receptor-binding ligand, thereby forming an AAV nucleic acid-receptor binding ligand complex, wherein the receptor-binding ligand, upon binding a cell membrane receptor causes endocytosis of the receptor and the receptor binding ligand;
- (ii) contacting a cell with the rAAV nucleic acid-AAV helper nucleic acid-receptor binding ligand complex; and,
- (iii) incubating the cell under conditions which permit replication and encapsidation of the rAAV nucleic acid, thereby creating an rAAV **vector**.

CLMS (19)

19. The method of claim 18, wherein the receptor binding ligand is an AAV helper virus.

CLMS (20)

20. The method of claim 18, wherein the receptor binding ligand is selected from the group consisting of adenovirus and herpes virus.

CLMS (21)

21. The method of claim 18, wherein the AAV nucleic acid-receptor binding ligand complex further comprises an AAV helper virus.

CLMS (22)

22. The method of claim 18, wherein the cell of step (ii) is infected with an AAV helper virus.

CLMS (23)

23. The method of claim 18, wherein the cell of step (ii) is infected with an AAV helper virus at the same time as it is contacted with the rAAV nucleic acid-AAV helper nucleic acid-receptor binding ligand complex of step (i).

CLMS (24)

24. A method of transducing a cell with a target nucleic acid, comprising:

- (i) binding a recombinant rAAV nucleic acid and a recombinant AAV helper nucleic acid to an AAV helper virus, thereby producing a bound AAV helper virus, wherein the AAV helper nucleic acid comprises sequences necessary for rAAV replication and encapsidation, and the rAAV nucleic acid comprises a target nucleic acid sequence;
- (ii) contacting a cell with the bound helper virus; and
- (iii) culturing the cell under conditions which permit replication and encapsidation of the rAAV nucleic acid, thereby producing an rAAV **vector**;
- (iv) isolating the rAAV **vector**, thereby producing an isolated rAAV **vector**; and
- (v) contacting a cell with the isolated rAAV **vector**, thereby transducing the cell.

CLMS (25)

25. The method of claim 24, wherein the cell is a human cell.

CLMS (26)

26. The method of claim 24, wherein the rAAV helper virus is an adenovirus.

CLMS(27)

27. A composition, comprising an AAV helper virus, nucleic acid binding molecule, rAAV nucleic acid and an AAV helper nucleic acid.

CLMS(28)

28. The composition of claim 27, further comprising transferrin.

CLMS(29)

29. The composition of claim 27, wherein the nucleic acid binding molecule is poly-L-lysine.

CLMS(30)

30. The composition of claim 27, wherein the AAV helper virus is an adenovirus.

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DIALOG(R)File 399:CA SEARCH(R)  
(c) 1998 American Chemical Society. All rts. reserv.

127322794 CA: 127(23)322794k PATENT  
Property-affecting and/or property-exhibiting compositions for  
therapeutic and diagnostic uses  
INVENTOR(AUTHOR): Rabbani, Elazar; Stavrianopoulos, Jannis G.; Donegan,  
James J.; Liu, Dakai; Kelker, Norman E.; Engelhardt, Dean L.  
LOCATION: USA  
ASSIGNEE: Enzo Therapeutics, Inc.  
PATENT: Canada Pat Appl ; CA 2190304 AA DATE: 19970616  
APPLICATION: CA 2190304 (19961114) \*US 574443 (19951215)  
PAGES: 275 pp. CODEN: CPXXEB LANGUAGE: English CLASS: C07H-021/00A;  
A61K-047/48B; A61K-031/70B; A61K-038/55B

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DIALOG(R)File 399:CA SEARCH(R)  
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126312833 CA: 126(24)312833n JOURNAL  
Stable human immunodeficiency virus type 1 (HIV-1) resistance in  
transformed CD4+ monocytic cells treated with multitargeting HIV-1  
antisense sequences incorporated into U1 snRNA  
AUTHOR(S): Liu, Dakai; Donegan, James; Nuovo, Gerard; Mitra, Debashis;  
Laurence, Jeffrey  
LOCATION: Enzo Biochem, Inc., Farmingdale, NY, 11735, USA  
JOURNAL: J. Virol. DATE: 1997 VOLUME: 71 NUMBER: 5 PAGES: 4079-4085

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Display 1/3/3 (Item 3 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
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123248471 CA: 123(19)248471b JOURNAL  
An upstream control region required for inducible transcription of the  
mouse H1.degree. histone gene during terminal differentiation  
AUTHOR(S): Dong, Yonghe; Liu, Dakai; Skoultchi, Arthur I.  
LOCATION: Dep. Cell Biol., Albert Einstein Coll. Med., Bronx, NY, 10461,  
USA  
JOURNAL: Mol. Cell. Biol. DATE: 1995 VOLUME: 15 NUMBER: 4 PAGES:  
1889-900 CODEN: MCEBD4 ISSN: 0270-7306 LANGUAGE: English

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Display 1/3/4 (Item 4 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
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123247944 CA: 123(19)247944w DISSERTATION  
Cloning, characterization and regulation of mouse H1 histone genes  
AUTHOR(S): Liu, Dakai  
LOCATION: Yeshiva Univ., New York, NY, USA  
DATE: 1995 PAGES: 278 pp. CODEN: DABBBB LANGUAGE: English CITATION:  
Diss. Abstr. Int., B 1995, 56(3), 1200 AVAIL: Univ. Microfilms Int., Order  
No.: DA9525131

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DIALOG(R)File 76:Life Sciences Collection  
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01905252 3717173  
An upstream control region required for inducible transcription of the  
mouse H1 degree histone gene during terminal differentiation  
Dong, Yonghe; **Liu, Dakai**; Skoultchi, A.I.  
Dep. Cell Biol., Albert Einstein Coll. Med., 1300 Morris Park Ave., Bronx,  
NY 10461, USA  
MOL. CELL. BIOL. vol. 15, no. 4, pp. 1889-1900 (1995)  
ISSN: 0270-7306  
DOCUMENT TYPE: Journal article LANGUAGE: ENGLISH  
SUBFILE: Genetics Abstracts

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Display 1/3/6 (Item 1 from file: 143)  
DIALOG(R)File 143:Biol. & Agric. Index  
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0707170 H.W. WILSON RECORD NUMBER: BBAI97028717  
Stable human immunodeficiency virus type 1 (HIV-1) resistance in  
transformed CD4+ monocytic cells treated with multitargeting HIV-1  
antisense sequences incorporated into U1 snRNA  
**Liu, Dakai**  
Donegan, James; Nuovo, Gerard

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E5	4	AU=LIU DAMING
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E8	2	AU=LIU DAN-CHU
E9	1	AU=LIU DANCHU
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E11	1	AU=LIU DANMEI
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E7	2	AU=LIU, D P
E8	4	AU=LIU, D S H
E9	1	AU=LIU, D T
E10	947	AU=LIU, D.
E11	1	AU=LIU, D. -J.
E12	1	AU=LIU, D. -W.

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DIALOG(R)File 10:AGRICOLA  
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949364 779054384  
Polychlorinated biphenyls (PCBs) in sewage sludges  
Liu, D; Chawla, V K  
In Trace Substances in Environmental Health; Proceedings of University of  
Missouri's Annual Conference 1976 10th: 247-250.  
LC: RA422.C65  
Language: English

- end of record -

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822195 769065209

Chlorinated hydrocarbon pesticides in chemical sewage sludges  
**Liu, D**; Chawla, V K; Chau, A S Y  
In Trace Substances in Environmental Health; Proceedings of University of  
Missouri's Annual Conference 1975 9th: 189-196.  
LC: RA422.C65  
Language: English

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DIALOG(R)File 10:AGRICOLA  
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333574 729115882

Rapid biodegradation of NTA [nitrilotriacetic acid] by a novel bacterial  
mutant

Wong, P T S; **Liu, D**; Dutka, B J  
Water Res Dec 1972 6 (12): 1577-1584.  
LC: TD420.W3  
Language: English

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DIALOG(R)File 143:Biol. & Agric. Index  
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0824549 H.W. WILSON RECORD NUMBER: BBAI95050081  
Effects of Mg<sup>2+</sup>, Co<sup>2+</sup>, and Hg<sup>2+</sup> on the nucleus and nucleolus in root tip  
cells of Allium cepa  
**Liu, D**  
Zhai, L; Jiang, W  
Bulletin of Environmental Contamination and Toxicology v. 55 (Nov. '95) p.  
779-87  
DOCUMENT TYPE: Feature Article ISSN: 0007-4861

- end of record -

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Display 2/3/5 (Item 2 from file: 143)  
DIALOG(R)File 143:Biol. & Agric. Index  
(c) 1998 The HW Wilson Co. All rts. reserv.

0522792 H.W. WILSON RECORD NUMBER: BBAI95017633  
Identification of potato scab inducing and suppressive species of  
Streptomyces  
Lorang, J. M  
**Liu, D**; Anderson, N. A  
Phytopathology v. 85 (Mar. '95) p. 261-8  
DOCUMENT TYPE: Feature Article ISSN: 0031-949X

- end of record -

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Display 2/3/6 (Item 3 from file: 143)  
DIALOG(R)File 143:Biol. & Agric. Index  
(c) 1998 The HW Wilson Co. All rts. reserv.



0502775 H.W. WILSON RECORD NUMBER: BBAI94053343  
Simple technique for determination of biofilm accumulatio

**Liu, D**

Lau, Y. L; Chau, Y. K

Bulletin of Environmental Contamination and Toxicology v. 53 (Dec. '94) p.  
913-18

DOCUMENT TYPE: Feature Article ISSN: 0007-4861

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Display 2/3/7 (Item 4 from file: 143)  
DIALOG(R)File 143:Biol. & Agric. Index  
(c) 1998 The HW Wilson Co. All rts. reserv.

0376086 H.W. WILSON RECORD NUMBER: BBAI92023752  
Effect of nifedipine on alkaloid accumulation in Catharanthus roseus cell  
cultures

Merillon, J. M

**Liu, D;** Laurent, Y

Phytochemistry v. 31 no5 ('92) p. 1609-12

DOCUMENT TYPE: Feature Article ISSN: 0031-9422

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Display 2/3/8 (Item 5 from file: 143)  
DIALOG(R)File 143:Biol. & Agric. Index  
(c) 1998 The HW Wilson Co. All rts. reserv.

0101874 H.W. WILSON RECORD NUMBER: BBAI86000934  
Biochemical responses of bacteria after short exposure to alkyltins

**Liu, D**

Thomson, K

Bulletin of Environmental Contamination and Toxicology v. 36 (Jan. '86) p.  
60-6

DOCUMENT TYPE: Feature Article ISSN: 0007-4861

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Display 2/3/9 (Item 6 from file: 143)  
DIALOG(R)File 143:Biol. & Agric. Index  
(c) 1998 The HW Wilson Co. All rts. reserv.

0080706 H.W. WILSON RECORD NUMBER: BBAI85019238  
Effect of bacterial cultures on microbial toxicity assessment

**Liu, D**

Bulletin of Environmental Contamination and Toxicology v. 34 (Mar. '85) p.  
331-9

DOCUMENT TYPE: Feature Article ISSN: 0007-4861

- end of record -

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Display 2/3/10 (Item 7 from file: 143)  
DIALOG(R)File 143:Biol. & Agric. Index  
(c) 1998 The HW Wilson Co. All rts. reserv.

0030536 H.W. WILSON RECORD NUMBER: BBAI84015426  
Fulvic-acid-enhanced biodegradation of aquatic contaminants

**Liu, D**

Carey, J; Thomson, K

Bulletin of Environmental Contamination and Toxicology v. 31 (Aug. '83) p.  
203-7

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Display 2/3/11 (Item 8 from file: 143)  
DIALOG(R)File 143:Biol. & Agric. Index  
(c) 1998 The HW Wilson Co. All rts. reserv.

0026257 H.W. WILSON RECORD NUMBER: BBAI84011133  
Toxicity assessment of chlorobenzenes using bacteria

Liu, D

Thomson, K

Bulletin of Environmental Contamination and Toxicology v. 31 (July '83) p.  
105-11

DOCUMENT TYPE: Feature Article ISSN: 0007-4861

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Display 2/3/12 (Item 1 from file: 315)  
DIALOG(R)File 315:ChemEng & Biotec Abs  
(c)1998 RoySocChm,DECHEMA,FizChemie. All rts. reserv.

135301 CEABA Accession No.: 15-10-003515 DOCUMENT TYPE: Journal  
Title: Preparation of immobilized lactoperoxidase by radiocrosslinking.  
AUTHOR: Ma, S.; Shi, X.; Liu, D; Tian, M.  
CORPORATE SOURCE: Beijing Univ. Dep. Chem. Beijing China  
JOURNAL: Beijing Shifan Daxue Xuebao, Ziran Kexueban, Issue: 4, Page(s):  
45-48

CODEN: BSDKDH

CITATION: Chem. Abstr. 101(03) No. 019747

PUBLICATION DATE: 1983 (830000) LANGUAGE: Chinese

- end of record -

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Display 2/3/13 (Item 1 from file: 358)  
DIALOG(R)File 358:Current BioTech Abs  
Royal Soc Chem & DECHEMA . All rts. reserv.

007860 CBA Acc. No.: 02-10-003515 DOC. TYPE: Journal  
Preparation of immobilized lactoperoxidase by radiocrosslinking.  
AUTHOR: Ma, S.; Shi, X.; Liu, D; Tian, M.  
CORPORATE SOURCE: Beijing Univ., Dep. Chem., Beijing, China  
JOURNAL: Beijing Shifan Daxue Xuebao, Ziran Kexueban Issue: 4 Page(s):  
45-48

CODEN: BSDKDH

CITATION: Chem. Abstr. 101(03) No. 019747

PUBLICATION DATE: 1983 (830000) LANGUAGE: Chinese

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S3 947 AU="LIU, D."  
? e au=rabbani, elazar

Ref Items Index-term  
E1 16 \*AU=RABBANI, ELAZAR

E2 2 AU=RABBANI, ELAZAR S.  
 E3 8 AU=RABBANI, F.  
 E4 2 AU=RABBANI, FARHANG  
 E5 1 AU=RABBANI, G.  
 E6 1 AU=RABBANI, G. H  
 E7 11 AU=RABBANI, G. H.  
 E8 1 AU=RABBANI, G. M.  
 E9 12 AU=RABBANI, G.H.  
 E10 1 AU=RABBANI, GHYLAM S. M.  
 E11 3 AU=RABBANI, GOLAM H.  
 E12 16 AU=RABBANI, H.

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S4 16 AU="RABBANI, ELAZAR"

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Display 4/3/1 (Item 1 from file: 312)

DIALOG(R)File 312:CA SEARCH(R)

(c) 1997 American Chemical Society. All rts. reserv.

108201342 CA: 108(23)201342k PATENT  
 Analyte detection by means of fluorescent energy transfer  
 INVENTOR(AUTHOR): Stavrianopoulos, Jannis; Rabbani, Elazar; Abrams,  
 Samuel B.; Wetmur, James Gerard  
 LOCATION: USA  
 ASSIGNEE: Enzo Biochem, Inc.  
 PATENT: European Pat. Appl. ; EP 242527 A2 DATE: 871028  
 APPLICATION: EP 87102315 (870218) \*US 831250 (860219)  
 PAGES: 66 pp. CODEN: EPXXDW LANGUAGE: English CLASS: G01N-021/64A  
 DESIGNATED COUNTRIES: CH; DE; FR; GB; GR; IT; LI; SE

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Display 4/3/2 (Item 2 from file: 312)

DIALOG(R)File 312:CA SEARCH(R)

(c) 1997 American Chemical Society. All rts. reserv.

108183293 CA: 108(21)183293p PATENT  
 Method for labeling polynucleotide sequences as hybridization probes  
 INVENTOR(AUTHOR): Stavrianopoulos, Jannis; Rabbani, Elazar  
 LOCATION: USA  
 ASSIGNEE: Enzo Biochem, Inc.  
 PATENT: European Pat. Appl. ; EP 212546 A2 DATE: 870304  
 APPLICATION: EP 86111137 (860812) \*US 765288 (850813)  
 PAGES: 23 pp. CODEN: EPXXDW LANGUAGE: English CLASS: C07H-021/00A;  
 C12Q-001/68 DESIGNATED COUNTRIES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL;  
 SE

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Display 4/3/3 (Item 3 from file: 312)

DIALOG(R)File 312:CA SEARCH(R)

(c) 1997 American Chemical Society. All rts. reserv.

106210545 CA: 106(25)210545q PATENT  
 Method for detecting an analyte moiety by means of signal localization  
 INVENTOR(AUTHOR): Rabbani, Elazar  
 LOCATION: USA  
 ASSIGNEE: Enzo Biochem, Inc.

PATENT: European Pat. Appl. ; EP 212670 A2 DATE: 870204  
APPLICATION: EP 8611128 (860828) \*US 770828 (850829) \*US 774118 (850909)  
\*US 863742 (860515)  
PAGES: 15 pp. CODEN: EPXXDW LANGUAGE: English CLASS: G01N-033/543A;  
G01N-033/542B; C12Q-001/00B; C12Q-001/68B; G01N-033/566B; G01N-033/68B;  
G01N-033/569B; G01N-033/74B; G01N-033/88B DESIGNATED COUNTRIES: AT; BE; CH  
; DE; FR; GB; IT; LI; LU; NL; SE

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Display 4/3/4 (Item 1 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
(c) 1998 American Chemical Society. All rts. reserv.

127322794 CA: 127(23)322794k PATENT  
Property-affecting and/or property-exhibiting compositions for  
therapeutic and diagnostic uses  
INVENTOR(AUTHOR): Rabbani, Elazar; Stavrianopoulos, Jannis G.; Donegan,  
James J.; Liu, Dakai; Kelker, Norman E.; Engelhardt, Dean L.  
LOCATION: USA  
ASSIGNEE: Enzo Therapeutics, Inc.  
PATENT: Canada Pat Appl ; CA 2190304 AA DATE: 19970616  
APPLICATION: CA 2190304 (19961114) \*US 574443 (19951215)  
PAGES: 275 pp. CODEN: CPXXEB LANGUAGE: English CLASS: C07H-021/00A;  
A61K-047/48B; A61K-031/70B; A61K-038/55B

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Display 4/3/5 (Item 2 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
(c) 1998 American Chemical Society. All rts. reserv.

123220269 CA: 123(17)220269t PATENT  
Novel process, construct and conjugate for producing multiple nucleic  
acid copies under isostatic conditions  
INVENTOR(AUTHOR): Engelhardt, Dean L.; Stavrianopoulos, Jannis G.;  
Rabbani, Elazar; Donegan, James J.  
LOCATION: USA  
ASSIGNEE: Enzo Diagnostics, Inc.  
PATENT: European Pat. Appl. ; EP 667393 A2 DATE: 950816  
APPLICATION: EP 95100438 (950113) \*US 182621 (940113)  
PAGES: 49 pp. CODEN: EPXXDW LANGUAGE: English CLASS: C12N-015/10A;  
C12Q-001/68B DESIGNATED COUNTRIES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IE;  
IT; LI; LU; MC; NL; PT; SE

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Display 4/3/6 (Item 3 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
(c) 1998 American Chemical Society. All rts. reserv.

121075319 CA: 121(7)75319m PATENT  
Antisense constructs for inhibiting or regulating the functions of an  
immune response gene and their uses  
INVENTOR(AUTHOR): Rabbani, Elazar  
LOCATION: USA  
ASSIGNEE: ENZO Therapeutics, Inc.  
PATENT: European Pat. Appl. ; EP 601585 A2 DATE: 940615  
APPLICATION: EP 93119894 (931209) \*US 988256 (921209)  
PAGES: 18 pp. CODEN: EPXXDW LANGUAGE: English CLASS: C12N-015/11A;  
C12N-001/20B DESIGNATED COUNTRIES: DE; FR; GB; IT

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Display 4/3/7 (Item 4 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
(c) 1998 American Chemical Society. All rts. reserv.

108201342 CA: 108(23)201342k PATENT  
Analyte detection by means of fluorescent energy transfer  
INVENTOR(AUTHOR): Stavrianopoulos, Jannis; Rabbani, Elazar; Abrams,  
Samuel B.; Wetmur, James Gerard  
LOCATION: USA  
ASSIGNEE: Enzo Biochem, Inc.  
PATENT: European Pat. Appl. ; EP 242527 A2 DATE: 871028  
APPLICATION: EP 87102315 (870218) \*US 831250 (860219)  
PAGES: 66 pp. CODEN: EPXXDW LANGUAGE: English CLASS: G01N-021/64A  
DESIGNATED COUNTRIES: CH; DE; FR; GB; GR; IT; LI; SE

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Display 4/3/8 (Item 5 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
(c) 1998 American Chemical Society. All rts. reserv.

108183293 CA: 108(21)183293p PATENT  
Method for labeling polynucleotide sequences as hybridization probes  
INVENTOR(AUTHOR): Stavrianopoulos, Jannis; Rabbani, Elazar  
LOCATION: USA  
ASSIGNEE: Enzo Biochem, Inc.  
PATENT: European Pat. Appl. ; EP 212546 A2 DATE: 870304  
APPLICATION: EP 86111137 (860812) \*US 765288 (850813)  
PAGES: 23 pp. CODEN: EPXXDW LANGUAGE: English CLASS: C07H-021/00A;  
C12Q-001/68 DESIGNATED COUNTRIES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL;  
SE

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Display 4/3/9 (Item 6 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
(c) 1998 American Chemical Society. All rts. reserv.

106210545 CA: 106(25)210545q PATENT  
Method for detecting an analyte moiety by means of signal localization  
INVENTOR(AUTHOR): Rabbani, Elazar  
LOCATION: USA  
ASSIGNEE: Enzo Biochem, Inc.  
PATENT: European Pat. Appl. ; EP 212670 A2 DATE: 870304  
APPLICATION: EP 86111928 (860828) \*US 770828 (850829) \*US 774118 (850909)  
\*US 863742 (860515)  
PAGES: 15 pp. CODEN: EPXXDW LANGUAGE: English CLASS: G01N-033/543A;  
G01N-033/542B; C12Q-001/00B; C12Q-001/68B; G01N-033/566B; G01N-033/68B;  
G01N-033/569B; G01N-033/74B; G01N-033/88B DESIGNATED COUNTRIES: AT; BE; CH  
; DE; FR; GB; IT; LI; LU; NL; SE

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Display 4/3/10 (Item 7 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
(c) 1998 American Chemical Society. All rts. reserv.

105057480 CA: 105(7)57480x PATENT  
Composition and method for the detection of the presence of a

polynucleotide sequence of interest

INVENTOR(AUTHOR): Rabbani, Elazar; Engelhardt, Dean

LOCATION: USA

ASSIGNEE: Enzo Biochem, Inc.

PATENT: European Pat. Appl. ; EP 173339 A2 DATE: 860305

APPLICATION: EP 85110910 (850829) \*US 646171 (840830)

PAGES: 41 pp. CODEN: EPXXDW LANGUAGE: English CLASS: C12Q-001/68A;  
C12N-015/00 DESIGNATED COUNTRIES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL;  
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Display 4/3/11 (Item 8 from file: 399)

DIALOG(R)File 399:CA SEARCH(R)

(c) 1998 American Chemical Society. All rts. reserv.

104145119 CA: 104(17)145119w PATENT

Hybridization method for the detection of genetic materials

INVENTOR(AUTHOR): Rabbani, Elazar; Engelhardt, Dean L.

LOCATION: USA

ASSIGNEE: Enzo Bio Chem., Inc.

PATENT: European Pat. Appl. ; EP 159719 A2 DATE: 851030

APPLICATION: EP 85105130 (850426) \*US 605022 (840427) \*US 653816 (840924)

PAGES: 40 pp. CODEN: EPXXDW LANGUAGE: English CLASS: C12Q-001/68A;

G01N-033/58B DESIGNATED COUNTRIES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL;  
SE

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Display 4/3/12 (Item 9 from file: 399)

DIALOG(R)File 399:CA SEARCH(R)

(c) 1998 American Chemical Society. All rts. reserv.

103192752 CA: 103(23)192752m PATENT

Heterologous system for the detection of chemically-labeled DNA and other  
biological materials providing a receptor or target moiety on them

INVENTOR(AUTHOR): Rabbani, Elazar

LOCATION: USA

ASSIGNEE: Enzo Bio Chem, Inc.

PATENT: European Pat. Appl. ; EP 151492 A2 DATE: 850814

APPLICATION: EP 85101353 (850208) \*US 578732 (840209)

PAGES: 22 pp. CODEN: EPXXDW LANGUAGE: English CLASS: G01N-033/535A;  
C12Q-001/68B; G01N-033/53B DESIGNATED COUNTRIES: AT; BE; CH; DE; FR; GB;  
IT; LI; LU; NL; SE

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Display 4/3/13 (Item 10 from file: 399)

DIALOG(R)File 399:CA SEARCH(R)

(c) 1998 American Chemical Society. All rts. reserv.

102109375 CA: 102(13)109375b PATENT

Assay method utilizing polynucleotide sequences

INVENTOR(AUTHOR): Pergolizzi, Robert G.; Stavrianopoulos, Jannis G.;  
Rabbani, Elazar; Engelhardt, Dean L.; Kline, Stan

LOCATION: USA

ASSIGNEE: Enzo Bio Chem, Inc.

PATENT: European Pat. Appl. ; EP 128332 A1 DATE: 841219

APPLICATION: EP 84105028 (840504) \*US 491929 (830505)

PAGES: 91 pp. CODEN: EPXXDW LANGUAGE: English CLASS: G01N-033/54;  
G01N-033/58; C12Q-001/68; C07G-007/00 DESIGNATED COUNTRIES: AT; BE; CH; DE  
; FR; GB; IT; LI; LU; NL; SE

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Display 4/3/14 (Item 11 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
(c) 1998 American Chemical Society. All rts. reserv.

100188438 CA: 100(23)188438j PATENT  
Modified labeled nucleotides and polynucleotides and methods of utilizing  
and detecting them  
INVENTOR(AUTHOR): Engelhardt, Dean; Rabbani, Elazar; Kline, Stanley;  
Stavrianopoulos, Jannis G.; Kirtikar, Dollie  
LOCATION: USA  
ASSIGNEE: Enzo Biochem, Inc.  
PATENT: European Pat. Appl. ; EP 97373 A2 DATE: 840104  
APPLICATION: EP 83106112 (830622) \*US 391440 (820623)  
PAGES: 140 pp. CODEN: EPXXDW LANGUAGE: English CLASS: C07H-021/00;  
C07H-019/04; C07G-007/00; A61K-031/70; C12P-021/00; G01N-033/48;  
C07C-155/03 DESIGNATED COUNTRIES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL;  
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Display 4/3/15 (Item 12 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
(c) 1998 American Chemical Society. All rts. reserv.

83189447 CA: 83(23)189447d JOURNAL  
Presence of polyriboadenylate sequences in pulse-labeled RNA of  
Escherichia coli  
AUTHOR(S): Srinivasan, P. R.; Ramanarayanan, M.; Rabbani, Elazar  
LOCATION: Coll. Physicians Surg., Columbia Univ., New York, N. Y.  
JOURNAL: Proc. Natl. Acad. Sci. U. S. A. DATE: 1975 VOLUME: 72  
NUMBER: 8 PAGES: 2910-14 CODEN: PNASA6 LANGUAGE: English

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Display 4/3/16 (Item 13 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
(c) 1998 American Chemical Society. All rts. reserv.

78108062 CA: 78(17)108062w JOURNAL  
Role of the translocation factor G in the regulation of ribonucleic acid  
synthesis  
AUTHOR(S): Rabbani, Elazar; Srinivasan, P. R.  
LOCATION: Coll. Physicians Surg., Columbia Univ., New York, N. Y.  
JOURNAL: J. Bacteriol. DATE: 1973 VOLUME: 113 NUMBER: 3 PAGES:  
1177-83 CODEN: JOBAAY LANGUAGE: English

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237191 RETROVIR?  
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Display 6/3/1 (Item 1 from file: 357)  
DIALOG(R)File 357:Derwent Biotechnology Abs  
(c) 1998 Derwent Publ Ltd. All rts. reserv.

213018 DBA Accession No.: 97-08139

Adeno-associated virus type-2-mediated transfer of ecotropic retro virus  
receptor cDNA allows ecotropic **retroviral** transduction of  
established and primary human cells - for use in gene therapy

AUTHOR: Qing K; Bachelot T; Mukherjee P; Wang X-S; Peng L; Yoder M C;  
Leboulch P; Srivastava A

CORPORATE AFFILIATE: Univ.Indiana Univ.Harvard  
Massachusetts-Inst.Technol. Harvard-Med.Sch.

CORPORATE SOURCE: Department of Microbiology and Immunology, Indiana  
University School of Medicine, 635 Barnhill Drive, Medical Science  
Building, Room 255, IN 46202-5120, USA. email:arun  
srivastava@iucc.iupui.edu

JOURNAL: J.Virol. (71, 7, 5663-67) 1997

ISSN: 0022-538X CODEN: JOVIAM

LANGUAGE: English

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Display 6/3/2 (Item 2 from file: 357)  
DIALOG(R)File 357:Derwent Biotechnology Abs  
(c) 1998 Derwent Publ Ltd. All rts. reserv.

202100 DBA Accession No.: 96-12871

Recombinant adeno-associated virus-mediated high-efficiency, transient  
expression of the murine cationic amino acid transporter (ecotropic  
**retroviral** receptor) - permits stable transduction of human HeLa  
cells by ecotropic **retroviral** vectors; mouse ecotropic retro  
virus receptor gene transfer for stable retro virus vector transduction

AUTHOR: Bertran J; Miller J L; Yang Y; Fenimore-Justman A; Rueda F;  
Vanin E F; +Nienhuis A W

CORPORATE AFFILIATE: St.Jude-Child.Res.Hosp.Memphis  
Nat.Inst.Diabetes-Dig.Kidney-Dis.Bethesda; Genet.Ther.

CORPORATE SOURCE: Division of Experimental Hematology, Department of  
Hematology/Oncology, St. Jude Children's Research Hospital, 332 N.  
Lauderdale, Memphis, TN 38105, USA.

JOURNAL: J.Virol. (70, 10, 6759-66) 1996

ISSN: 0022-538X CODEN: JOVIAM

LANGUAGE: English

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Display 6/3/3 (Item 3 from file: 357)  
DIALOG(R)File 357:Derwent Biotechnology Abs  
(c) 1998 Derwent Publ Ltd. All rts. reserv.

173597 DBA Accession No.: 95-00418  
Preclinical studies toward gene therapy of prostate cancer - using a rat  
model for interleukin-2 cytokine-mediated gene therapy (conference  
abstract)  
AUTHOR: Vieweg J; Snyder D; Boczkowski D; Roberson K; Robertson C;  
Philip M; Philip R; Gilboa E  
CORPORATE AFFILIATE: Univ.Duke Appl.Immunosci.  
CORPORATE SOURCE: Department of Surgery, Duke University Medical Center,  
Durham, NC, USA.  
JOURNAL: Gene Ther.Meet.Cold Spring Harbor (181) 1994  
CODEN: 9999M  
CONFERENCE PROCEEDINGS: Gene Therapy, Cold Spring Harbor, New York, 21-25  
September, 1994.  
LANGUAGE: English

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Display 6/3/4 (Item 1 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.

16293765 Genuine Article#: YQ942 No. References: 46  
Title: Adeno-associated virus type 2-mediated gene transfer: Correlation of  
tyrosine phosphorylation of the cellular single-stranded D  
sequence-binding protein with transgene expression in human cells in  
vitro and murine tissues in vivo  
Author(s): Qing KY; Khuntirat B; Mah C; Kube DM; Wang XS; Ponnazhagan S;  
Zhou SZ; Dwarki VJ; Yoder MC; Srivastava A (REPRINT)  
Corporate Source: INDIANA UNIV,SCH MED, DEPT MICROBIOL & IMMUNOL, 635  
BARNHILL DR, MED SCI BLDG ROOM 257/INDIANAPOLIS//IN/46202 (REPRINT);  
INDIANA UNIV,SCH MED, DEPT MICROBIOL & IMMUNOL/INDIANAPOLIS//IN/46202;  
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UNIV,SCH MED, HERMAN B WELLS CTR PEDIAT RES/INDIANAPOLIS//IN/46202;  
INDIANA UNIV,SCH MED, DEPT BIOCHEM & MOL BIOL/INDIANAPOLIS//IN/46202;  
INDIANA UNIV,SCH MED, DEPT MED, DIV HEMATOL  
ONCOL/INDIANAPOLIS//IN/46202; WALTHER CANC INST,/INDIANAPOLIS//IN/46202  
; CHIRON CORP,DEPT VIROL/EMERYVILLE//CA/94608

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Display 6/3/4 (Item 1 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.  
Journal: JOURNAL OF VIROLOGY, 1998, V72, N2 (FEB), P1593-1599  
ISSN: 0022-538X Publication date: 19980200  
Publisher: AMER SOC MICROBIOLOGY, 1325 MASSACHUSETTS AVENUE, NW,  
WASHINGTON, DC 20005-4171  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

- end of record -

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Display 6/3/5 (Item 2 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.

16220430 Genuine Article#: YK825 No. References: 25  
Title: Tissue-specific expression of herpes simplex virus thymidine kinase  
gene delivered by adeno-associated virus inhibits the growth of human

hepatocellular carcinoma in athymic mice  
Author(s): Su H (REPRINT); Lu RH; Chang JC; Kan YW  
Corporate Source: UNIV CALIF SAN FRANCISCO, DEPT LAB MED, 3RD & PARNASSUS  
AVE, ROOM U426/SAN FRANCISCO//CA/94143 (REPRINT); UNIV CALIF SAN  
FRANCISCO, HOWARD HUGHES MED INST/SAN FRANCISCO//CA/94143  
Journal: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED  
STATES OF AMERICA, 1997, V94, N25 (DEC 9), P13891-13896  
ISSN: 0027-8424 Publication date: 19971209  
Publisher: NATL ACAD SCIENCES, 2101 CONSTITUTION AVE NW, WASHINGTON, DC  
20418  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

- end of record -

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Display 6/3/6 (Item 3 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.

16205482 Genuine Article#: YJ908 No. References: 46  
Title: Robust, but transient expression of adeno-associated  
virus-transduced genes during human T lymphopoiesis  
Author(s): Gardner JP; Zhu HH; Colosi PC; Kurtzman GJ; Scadden DT  
(REPRINT)  
Corporate Source: HARVARD UNIV, SCH MED, MASSACHUSETTS GEN HOSP, CANC CTR,  
AIDS RES CTR, DIV EXPT HEMATOL, /CHARLESTOWN//MA/02129 (REPRINT);  
HARVARD UNIV, SCH MED, MASSACHUSETTS GEN HOSP, CANC CTR, AIDS RES CTR,  
DIV EXPT HEMATOL/CHARLESTOWN//MA/02129; AVIGEN INC, /ALAMEDA//CA/  
Journal: BLOOD, 1997, V90, N12 (DEC 15), P4854-4864  
ISSN: 0006-4971 Publication date: 19971215  
Publisher: W B SAUNDERS CO, INDEPENDENCE SQUARE WEST CURTIS CENTER, STE  
300, PHILADELPHIA, PA 19106-3399  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

- end of record -

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Display 6/3/7 (Item 4 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.

16172411 Genuine Article#: YG424 No. References: 0  
Title: Successful in vivo marking of nonhuman primate lymphocytes by  
recombinant adeno-associated viral vectors: Direct comparison with  
**retroviral** vectors.  
Author(s): Hanazono Y; Brown KE; Metzger M; Young NS; Kurtzman G; Donahue  
RE; Dunbar CE  
Corporate Source: NHLBI, HEMATOL BRANCH, NIH/BETHESDA//MD/20892; AVIGEN  
INC, /ALAMEDA//CA/  
Journal: BLOOD, 1997, V90, N10, 1, 1 (NOV 15), P1156-1156  
ISSN: 0006-4971 Publication date: 19971115  
Publisher: W B SAUNDERS CO, INDEPENDENCE SQUARE WEST CURTIS CENTER, STE  
300, PHILADELPHIA, PA 19106-3399  
Language: English Document Type: MEETING ABSTRACT

- end of record -

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Display 6/3/8 (Item 5 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.

16132012 Genuine Article#: YE702 No. References: 39  
Title: Transfer of contaminants in adeno-associated virus vector stocks can  
mimic transduction and lead to artifactual results

Author(s): Alexander IE; Russell DW; Miller AD (REPRINT)  
Corporate Source: FRED HUTCHINSON CANC RES CTR, 1100 FAIRVIEW AVE N, ROOM  
C2-023/SEATTLE//WA/98109 (REPRINT); FRED HUTCHINSON CANC RES  
CTR, /SEATTLE//WA/98109; NEW CHILDRENS HOSP, GENE THERAPY RES  
UNIT/PARRAMATTA/NSW 2124/AUSTRALIA/; CHILDRENS MED RES  
INST, /PARRAMATTA/NSW 2124/AUSTRALIA/; UNIV WASHINGTON, DIV  
HEMATOL/SEATTLE//WA/98195; UNIV WASHINGTON, DEPT MED/SEATTLE//WA/98195;  
UNIV WASHINGTON, DEPT PATHOL/SEATTLE//WA/98195  
Journal: HUMAN GENE THERAPY, 1997, V8, N16 (NOV 1), P1911-1920  
ISSN: 1043-0342 Publication date: 19971101  
Publisher: MARY ANN LIEBERT INC PUBL, 2 MADISON AVENUE, LARCHMONT, NY 10538  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

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Display 6/3/9 (Item 6 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.

16117539 Genuine Article#: YD940 No. References: 34  
Title: Gene transfer into vascular cells using adeno-associated virus (AAV)  
vectors  
Author(s): Maeda Y; Ikeda U; Ogasawara Y; Urabe M; Takizawa T; Saito T;  
Colosi P; Kurtzman G; Shimada K; Ozawa K (REPRINT)  
Corporate Source: JICHI MED SCH, INST HEMATOL, DEPT BIOL MOL/MINAMI  
KAWACHI/TOCHIGI 32904/JAPAN/ (REPRINT); JICHI MED SCH, INST HEMATOL,  
DEPT BIOL MOL/MINAMI KAWACHI/TOCHIGI 32904/JAPAN/; JICHI MED SCH, DEPT  
CARDIOL/MINAMI KAWACHI/TOCHIGI 32904/JAPAN/; JICHI MED SCH, DEPT  
ANAT/MINAMI KAWACHI/TOCHIGI 32904/JAPAN/; AVIGEN INC, /ALAMEDA//CA/  
Journal: CARDIOVASCULAR RESEARCH, 1997, V35, N3 (SEP), P514-521  
ISSN: 0008-6363 Publication date: 19970900  
Publisher: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

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Display 6/3/10 (Item 7 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.

16067353 Genuine Article#: BJ66L No. References: 157  
Title: Adeno-associated virus based vectors as antivirals  
Author(s): Wong KK (REPRINT) ; Chatterjee S  
Corporate Source: CITY HOPE NATL MED CTR, DEPT HEMATOL & BONE MARROW  
TRANSPLANTAT, 1500 E DUARTE RD/DUARTE//CA/91010 (REPRINT); DIV INFECT  
DIS, /DUARTE//CA/91010; CITY HOPE NATL MED CTR, BECKMAN RES INST, DIV  
PEDIAT/DUARTE//CA/91010  
, 1996, V218, P145-170  
ISSN: 0070-217X Publication date: 19960000  
Publisher: SPRINGER-VERLAG BERLIN, HEIDELBERGER PLATZ 3, W-1000 BERLIN 33,  
GERMANY  
Series: CURRENT TOPICS IN MICROBIOLOGY AND IMMUNOLOGY  
Language: English Document Type: REVIEW

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Display 6/3/11 (Item 8 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.

15871677 Genuine Article#: XN039 No. References: 55  
Title: Transduction of the human immunodeficiency virus type 1 promoter

into human chromosomal DNA by adeno-associated virus      Effects on  
promoter activity

Author(s): Nahreini P; Mathews MB (REPRINT)  
Corporate Source: UNIV MED & DENT NEW JERSEY, NEW JERSEY MED SCH, DEPT  
BIOCHEM & MOL BIOL, 185 S ORANGE AVE/NEWARK//NJ/07103 (REPRINT); COLD  
SPRING HARBOR LAB, /COLD SPRING HARBOR//NY/11724  
Journal: VIROLOGY, 1997, V234, N1 (JUL 21), P42-50  
ISSN: 0042-6822 Publication date: 19970721  
Publisher: ACADEMIC PRESS INC JNL-COMP SUBSCRIPTIONS, 525 B ST, STE 1900,  
SAN DIEGO, CA 92101-4495  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

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Display 6/3/12 (Item 9 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.

15798785 Genuine Article#: XH034 No. References: 41  
Title: Efficient photoreceptor-targeted gene expression in vivo by  
recombinant adeno-associated virus  
Author(s): Flannery JG (REPRINT) ; Zolotukhin S; Vaquero MI; LaVail MM;  
Muzyczka N; Hauswirth WW  
Corporate Source: UNIV CALIF BERKELEY, SCH OPTOMETRY/BERKELEY//CA/94720  
(REPRINT); UNIV CALIF BERKELEY, NEUROSCI GRP/BERKELEY//CA/94720; UNIV  
FLORIDA, COLL MED, DEPT MOL GENET/GAINESVILLE//FL/32610; UNIV  
FLORIDA, COLL MED, DEPT MICROBIOL/GAINESVILLE//FL/32610; UNIV  
FLORIDA, COLL MED, DEPT OPHTHALMOL/GAINESVILLE//FL/32610; UNIV CALIF SAN  
FRANCISCO, BECKMAN VIS CTR/SAN FRANCISCO//CA/94143  
Journal: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED  
STATES OF AMERICA, 1997, V94, N13 (JUN 24), P6916-6921  
ISSN: 0027-8424 Publication date: 19970624  
Publisher: NATL ACAD SCIENCES, 2101 CONSTITUTION AVE NW, WASHINGTON, DC  
20418

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Display 6/3/12 (Item 9 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

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Display 6/3/13 (Item 10 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.

15700134 Genuine Article#: WZ920 No. References: 44  
Title: Adeno-associated virus 2-mediated gene transfer in vivo:  
organ-tropism and expression of transduced sequences in mice  
Author(s): Ponnazhagan S; Mukherjee P; Yoder MC; Wang XS; Zhou SZ; Kaplan J  
; Wadsworth S; Srivastava A (REPRINT)  
Corporate Source: INDIANA UNIV, SCH MED, DEPT MED, DIV HEMATOL  
ONCOL/INDIANAPOLIS//IN/46202 (REPRINT); INDIANA UNIV, SCH MED, DEPT MED,  
DIV HEMATOL ONCOL/INDIANAPOLIS//IN/46202; INDIANA UNIV, SCH MED, WALTHER  
ONCOL CTR/INDIANAPOLIS//IN/46202; INDIANA UNIV, SCH MED, DEPT BIOCHEM &  
MOL BIOL/INDIANAPOLIS//IN/46202; INDIANA UNIV, SCH MED, HERMAN B WELLS  
CTR PEDIAT RES/INDIANAPOLIS//IN/46202; GENZYME  
CORP, /FRAMINGHAM//MA/01701; INDIANA UNIV, SCH MED, DEPT IMMUNOL &  
MICROBIOL/INDIANAPOLIS//IN/46202  
Journal: GENE, 1997, V190, N1, SI (APR 29), P203-210

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Display 6/3/13 (Item 10 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

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Display 6/3/14 (Item 11 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.  
  
15675927 Genuine Article#: WY484 No. References: 57  
Title: Gene therapy strategies for the treatment of thalassemia using  
adeno-associated virus vectors  
Author(s): Podsakoff GM; Couto LB; Suroskey RT; McQuiston SA; Kurtzman GJ  
(REPRINT)  
Corporate Source: AVIGEN INC, 1201 HARBOR BAY PKWY/ALAMEDA//CA/94502  
(REPRINT); AVIGEN INC, /ALAMEDA//CA/94502  
Journal: INTERNATIONAL JOURNAL OF PEDIATRIC HEMATOLOGY/ONCOLOGY, 1997, V4,  
N1, P41-51  
ISSN: 1070-2903 Publication date: 19970000  
Publisher: HARWOOD ACAD PUBL GMBH, C/O STBS LTD, PO BOX 90, READING, BERKS,  
ENGLAND RG1 8JL  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

- end of record -

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Display 6/3/15 (Item 12 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.  
  
15544170 Genuine Article#: WP336 No. References: 28  
Title: Detection of adeno-associated virus type 2 in sorted human bone  
marrow progenitor cells  
Author(s): Anderson RJ (REPRINT) ; Galatowicz G; Macdonald ID; Lowdell MW;  
Corbett TJ; Prentice HG  
Corporate Source: ROYAL FREE HOSP, SCH MED, DEPT HAEMATOL, BONE MARROW  
TRANSPLANT PROGRAM/LONDON NW3 2QG//ENGLAND/ (REPRINT)  
Journal: EXPERIMENTAL HEMATOLOGY, 1997, V25, N3 (MAR), P256-262  
ISSN: 0301-472X Publication date: 19970300  
Publisher: CARDEN JENNINGS PUBL CO LTD, BLAKE CTR, STE 200, 1224 W MAIN ST,  
CHARLOTTESVILLE, VA 22903  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

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Display 6/3/16 (Item 13 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.  
  
15454292 Genuine Article#: WH938 No. References: 50  
Title: Lack of site-specific integration of the recombinant  
adeno-associated virus 2 genomes in human cells  
Author(s): Ponnazhagan S; Erikson D; Kearns WG; Zhou SZ; Nahreini P; Wang  
XS; Srivastava A (REPRINT)  
Corporate Source: INDIANA UNIV, SCH MED, DEPT MICROBIOL & IMMUNOL, 635

BARNHILL DR, MS-255/INDIANAPOLIS//IN/46202 (REPRINT); INDIANA UNIV, SCH  
MED, DEPT MICROBIOL & IMMUNOL/INDIANAPOLIS//IN/46202; INDIANA UNIV, SCH  
MED, DEPT MED, DIV HEMATOL ONCOL/INDIANAPOLIS//IN/46202; INDIANA  
UNIV, SCH MED, WALTHER ONCOL CTR/INDIANAPOLIS//IN/46202; EASTERN  
VIRGINIA MED SCH, JONES INST REPROD MED, CTR PEDIAT  
RES/NORFOLK//VA/23501; JOHNS HOPKINS UNIV, SCH MED, CTR MED  
GENET/BALTIMORE//MD/21287

Journal: HUMAN GENE THERAPY, 1997, V8, N3 (FEB 10), P275-284

ISSN: 1043-0342 Publication date: 19970210

Publisher: MARY ANN LIEBERT INC PUBL, 2 MADISON AVENUE, LARCHMONT, NY 10538

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Display 6/3/16 (Item 13 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

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Display 6/3/17 (Item 14 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.  
  
15453480 Genuine Article#: WH716 No. References: 74  
Title: Antisense inhibition and adeno-associated viral vector delivery for  
reducing hypertension  
Author(s): Phillips MI (REPRINT)  
Corporate Source: UNIV FLORIDA, COLL MED, DEPT PHYSIOL, BOX  
100274/GAINESVILLE//FL/32610 (REPRINT)  
Journal: HYPERTENSION, 1997, V29, N1,2 (JAN), P177-187  
ISSN: 0194-911X Publication date: 19970100  
Publisher: AMER HEART ASSOC, 7272 GREENVILLE AVENUE, DALLAS, TX 75231-4596  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

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Display 6/3/18 (Item 15 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.  
  
15447888 Genuine Article#: WH172 No. References: 44  
Title: Recombinant adeno-associated virus mediates a high level of gene  
transfer but less efficient integration in the K562 human hematopoietic  
cell line  
Author(s): Malik P; McQuiston SA; Yu XJ; Pepper KA; Krall WJ; Podsakoff GM;  
Kurtzman GJ; Kohn DB (REPRINT)  
Corporate Source: UNIV SO CALIF, SCH MED, CHILDRENS HOSP LOS ANGELES, DIV  
RES IMMUNOL BONE MARROW TRANSPLANT/LOS ANGELES//CA/90027 (REPRINT);  
UNIV SO CALIF, SCH MED, CHILDRENS HOSP LOS ANGELES, DIV RES IMMUNOL BONE  
MARROW TRANSPLANT/LOS ANGELES//CA/90027; UNIV SO CALIF, SCH MED,  
CHILDRENS HOSP LOS ANGELES, DIV HEMATOL ONCOL/LOS ANGELES//CA/90027  
Journal: JOURNAL OF VIROLOGY, 1997, V71, N3 (MAR), P1776-1783  
ISSN: 0022-538X Publication date: 19970300  
Publisher: AMER SOC MICROBIOLOGY, 1325 MASSACHUSETTS AVENUE, NW,  
WASHINGTON, DC 20005-4171  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

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Display 6/3/19 (Item 16 from file: 434)

DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.

15384879 Genuine Article#: WD331 No. References: 35  
Title: Comparison of **retroviral** and adeno-associated viral vectors  
designed to express human clotting factor IX  
Author(s): Chen L; Perlick H; Morgan RA (REPRINT)  
Corporate Source: NIH, CLIN GENE THERAPY BRANCH, NATL CTR HUMAN GENOME RES,  
GENE TRANSFER TECHNOL/BETHESDA//MD/20892 (REPRINT); NIH, CLIN GENE  
THERAPY BRANCH, NATL CTR HUMAN GENOME RES, GENE TRANSFER  
TECHNOL/BETHESDA//MD/20892  
Journal: HUMAN GENE THERAPY, 1997, V8, N2 (JAN 20), P125-135  
ISSN: 1043-0342 Publication date: 19970120  
Publisher: MARY ANN LIEBERT INC PUBL, 2 MADISON AVENUE, LARCHMONT, NY 10538  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

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Display 6/3/20 (Item 17 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.

15383940 Genuine Article#: WD320 No. References: 57  
Title: Expression of the human multidrug resistance and glucocerebrosidase  
cDNAs from adeno-associated vectors: Efficient promoter activity of AAV  
sequences and in vivo delivery via liposomes  
Author(s): Baudard M; Flotte TR; Aran JM; Thierry AR; Pastan I; Pang MG;  
Kearns WG; Gottesman MM (REPRINT)  
Corporate Source: NCI, CELL BIOL LAB, NIH, BLDG 37, ROOM 1B22, 37 CONVENT  
DR, MSC 4255/BETHESDA//MD/20892 (REPRINT); NCI, CELL BIOL LAB,  
NIH/BETHESDA//MD/20892; NCI, MOL BIOL LAB, NIH/BETHESDA//MD/20892;  
NCI, TUMOR CELL BIOL LAB, NIH/BETHESDA//MD/20892; JOHNS HOPKINS UNIV  
HOSP, EUDOWOOD DIV PEDIAT RESP SCI/BALTIMORE//MD/21287; EASTERN VIRGINIA  
MED SCH, CTR PEDIAT RES/NORFOLK//VA/23510; JOHNS HOPKINS UNIV, SCH MED,  
CTR MED GENET/BALTIMORE//MD/21287  
Journal: HUMAN GENE THERAPY, 1996, V7, N11 (JUL 10), P1309-1322  
ISSN: 1043-0342 Publication date: 19960710  
Publisher: MARY ANN LIEBERT INC PUBL, 2 MADISON AVENUE, LARCHMONT, NY 10538

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Display 6/3/20 (Item 17 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

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Display 6/3/21 (Item 18 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.  
14018517 Genuine Article#: RH470 No. References: 58  
Title: REGULATED HIGH-LEVEL HUMAN BETA-GLOBIN GENE-EXPRESSION IN  
ERYTHROID-CELLS FOLLOWING RECOMBINANT ADENO-ASSOCIATED VIRUS-MEDIATED  
GENE-TRANSFER  
Author(s): EINERHAND MPW; ANTONIOU M; ZOLOTUKHIN S; MUZYCZKA N; BERNS KI;  
GROSVELD F; VALERIO D  
Corporate Source: LEIDEN UNIV, DEPT BIOCHEM MED, POB 3271/2280 GG  
RIJSWIJK//NETHERLANDS//; NATL INST MED RES, GENE STRUCT & EXPRESS  
LAB/LONDON NW7 1AA//ENGLAND//; SUNY STONY BROOK, DEPT MICROBIOL/STONY  
BROOK//NY/11794; CORNELL UNIV, COLL MED, HEARST MICROBIOL RES CTR, DEPT

MICROBIOL/NEW YORK//NY/10021; ERASMUS UNIV ROTTERDAM, DEPT CELL  
BIOL/3000 DR ROTTERDAM//NETHERLANDS/  
Journal: GENE THERAPY, 1995, V2, N5 (JUL), P336-343  
ISSN: 0969-7128  
Language: ENGLISH Document Type: ARTICLE (Abstract Available)

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Display 6/3/22 (Item 19 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.

09769442 Genuine Article#: AV529 No. References: 54  
Title: CONSTRUCTION OF A RECOMBINANT HUMAN PARVOVIRUS B19 -  
ADENO-ASSOCIATED VIRUS-2 (AAV) DNA INVERTED TERMINAL REPEATS ARE  
FUNCTIONAL IN AN AAV-B19 HYBRID VIRUS  
Author(s): SRIVASTAVA CH; SAMULSKI RJ; LU L; LARSEN SH; SRIVASTAVA A  
Corporate Source: INDIANA UNIV, SCH MED, DEPT MICROBIOL & IMMUNOL, 635  
BARNHILL DR/INDIANAPOLIS//IN/46202; INDIANA UNIV, SCH MED, DEPT MICROBIOL  
& IMMUNOL, 635 BARNHILL DR/INDIANAPOLIS//IN/46202; INDIANA UNIV, SCH  
MED, WALTHER ONCOL CTR/INDIANAPOLIS//IN/46202; INDIANA UNIV, SCH MED, DIV  
HEMATOL ONCOL/INDIANAPOLIS//IN/46202; INDIANA UNIV, SCH MED, DEPT  
MED/INDIANAPOLIS//IN/46202; UNIV PITTSBURGH, DEPT BIOL  
SCI/PITTSBURGH//PA/15217  
Journal: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED  
STATES OF AMERICA, 1989, V86, N20, P8078-8082  
Language: ENGLISH Document Type: ARTICLE

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Display 6/3/23 (Item 20 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.

09649279 Genuine Article#: AK284 No. References: 29  
Title: HELPER-FREE STOCKS OF RECOMBINANT ADENO-ASSOCIATED VIRUSES - NORMAL  
INTEGRATION DOES NOT REQUIRE VIRAL GENE-EXPRESSION  
Author(s): SAMULSKI RJ; CHANG LS; SHENK T  
Corporate Source: PRINCETON UNIV, LEWIS THOMAS LAB, DEPT  
BIOL/PRINCETON//NJ/08544; PRINCETON UNIV, LEWIS THOMAS LAB, DEPT  
BIOL/PRINCETON//NJ/08544; UNIV PITTSBURGH, DEPT BIOL  
SCI/PITTSBURGH//PA/15217  
Journal: JOURNAL OF VIROLOGY, 1989, V63, N9, P3822-3828  
Language: ENGLISH Document Type: ARTICLE

- end of record -

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Display 6/3/24 (Item 21 from file: 434)  
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.

09600043 Genuine Article#: AF406 No. References: 60  
Title: ADENO-ASSOCIATED VIRUS P5 PROMOTER CONTAINS AN ADENOVIRUS  
E1A-INDUCIBLE ELEMENT AND A BINDING-SITE FOR THE MAJOR LATE  
TRANSCRIPTION FACTOR  
Author(s): CHANG LS; SHI Y; SHENK T  
Corporate Source: PRINCETON UNIV, DEPT BIOL, HOWARD HUGHES MED  
INST/PRINCETON//NJ/08544; PRINCETON UNIV, DEPT BIOL, HOWARD HUGHES MED  
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Journal: JOURNAL OF VIROLOGY, 1989, V63, N8, P3479-3488  
Language: ENGLISH Document Type: ARTICLE



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09477258 Genuine Article#: U5839 No. References: 57  
Title: RESCUE AND REPLICATION OF THE ADENO-ASSOCIATED VIRUS-2 GENOME IN  
MORTAL AND IMMORTAL HUMAN-CELLS  
Author(s): NAHREINI P; SRIVASTAVA A  
Corporate Source: INDIANA UNIV,SCH MED,DEPT MICROBIOL & IMMUNOL,DIV HEMATOL  
ONCOL/INDIANAPOLIS//IN/46223; INDIANA UNIV,SCH MED,DEPT MED,DIV HEMATOL  
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Journal: INTERVIROLOGY, 1989, V30, N2, P74-85  
Language: ENGLISH Document Type: ARTICLE

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09059394 Genuine Article#: Q2940 No. References: 19  
Title: ADENO-ASSOCIATED VIRUS - A VECTOR SYSTEM FOR EFFICIENT INTRODUCTION  
AND INTEGRATION OF DNA INTO A VARIETY OF MAMMALIAN-CELL TYPES  
Author(s): LEBKOWSKI JS; MCNALLY MM; OKARMA TB; LERCH LB  
Corporate Source: APPL IMMUNE SCI INC,DIV MOLEC BIOL,200 CONSTITUT DR/MENLO  
PK//CA/94025  
Journal: MOLECULAR AND CELLULAR BIOLOGY, 1988, V8, N10, P3988-3996  
Language: ENGLISH Document Type: ARTICLE

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08585966 Genuine Article#: L9202 No. References: 23  
Title: GENE-TRANSFER INTO HEMATOPOIETIC PROGENITOR CELLS MEDIATED BY AN  
ADENO-ASSOCIATED VIRUS VECTOR  
Author(s): LAFACE D; HERMONAT P; WAKELAND E; PECK A  
Corporate Source: UNIV FLORIDA,DEPT PATHOL/GAINESVILLE//FL/32610  
Journal: VIROLOGY, 1988, V162, N2, P483-486  
Language: ENGLISH Document Type: NOTE

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08257841 Genuine Article#: J5181 No. References: 249  
Title: ADENO-ASSOCIATED VIRUSES - AN UPDATE  
Author(s): BERNS KI; BOHENZKY RA  
Corporate Source: CORNELL UNIV,MED CTR,COLL MED,DEPT MICROBIOL/NEW  
YORK//NY/10021  
Journal: ADVANCES IN VIRUS RESEARCH, 1987, V32, P243-306  
Language: ENGLISH Document Type: REVIEW, BIBLIOGRAPHY

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07591740 Genuine Article#: E4449 No. References: 56  
Title: LATENT INFECTION OF KB CELLS WITH ADENO-ASSOCIATED VIRUS TYPE-2  
Author(s): LAUGHLIN CA; CARDELLICHIO CB; COON HC  
Corporate Source: UNIFORMED SERV UNIV HLTH SCI, F EDWARD HEBERT SCH MED, DEPT  
PATHOL/BETHESDA//MD/20814  
Journal: JOURNAL OF VIROLOGY, 1986, V60, N2, P515-524  
Language: ENGLISH Document Type: ARTICLE

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07437695 Genuine Article#: D4179 No. References: 66  
Title: NEGATIVE AND POSITIVE REGULATION IN TRANS OF GENE-EXPRESSION FROM  
ADENO-ASSOCIATED VIRUS VECTORS IN MAMMALIAN-CELLS BY A VIRAL REP  
GENE-PRODUCT  
Author(s): TRATSCHIN JD; TAL J; CARTER BJ  
Corporate Source: NIADDKD, MOLEC & CELLULAR BIOL LAB/BETHESDA//MD/20892  
Journal: MOLECULAR AND CELLULAR BIOLOGY, 1986, V6, N8, P2884-2894  
Language: ENGLISH Document Type: ARTICLE

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06780312 Genuine Article#: ATE60 No. References: 50  
Title: ADENO-ASSOCIATED VIRUS VECTOR FOR HIGH-FREQUENCY INTEGRATION,  
EXPRESSION, AND RESCUE OF GENES IN MAMMALIAN-CELLS  
Author(s): TRATSCHIN JD; MILLER IL; SMITH MG; CARTER BJ  
Corporate Source: NIADDKD, MOLEC & CELLULAR BIOL LAB/BETHESDA//MD/20205  
Journal: MOLECULAR AND CELLULAR BIOLOGY, 1985, V5, N11, P3251-3260  
Language: ENGLISH Document Type: ARTICLE

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